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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,177	02/22/2005	Kari Antila	122488	3559
25944 7590 07/06/2009 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
HAGEMAN, MARK				
ART UNIT		PAPER NUMBER		
3653				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/522,177

**Applicant(s)**

ANTILA ET AL.

**Examiner**

Mark Hageman

**Art Unit**

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 4-24-2009
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhmonen in view of US 5,292,006 to Girts. Kuhmonen discloses a method for controlling a screening machine comprising at least one screen surface (20), feeding means (18) that feed material to be screened towards the screen surface and onto the screen surface where the material is separated into a first fraction remaining on the screen surface and into a second fraction passed through the screen surface while the material is moving along the screen surface (c3 lines 25+), the method, comprising: determining the amount of material on the screen surface by automatic measurement, and controlling the feeding speed of the feeding means on the basis of the measurement by automatic control in such a manner that the feeding speed which is above zero is changed to a different feeding speed which is above in one of the following ways: -providing upper and lower preset values (valmax, valmin) for the measurement value (valm) of a variable dependent on the amount of material on the screen surface (c3 lines 57+), lowering the speed of the feeding means when the measurement value (valm) passes one of the preset values, and increasing the speed of the feeding\_means when the measurement value (valm passes the other preset value

(c3 lines 57+), or providing a present value for a speed of change of the measurement value of the variable dependent on the amount of material on the screen surface and changing the speed of the feeding means without stopping the feeding means when the speed of change of the measurement value ( $\text{valm}$ ) of the variable exceeds a preset value  $((\Delta\text{valm}/\Delta t)_{\text{max}})$ . Kuhmonen does not disclose lowering the speed of the feeding means without stopping the feeding means. Kuhmonen discloses an on/off arrangement where the feeder is temporarily stopped. Girts discloses a control means that variably controls the rate material placed on a conveyor (c4 lines 1+) in order to maintain proper load and prevent overloading of the conveyor (c1 lines 26+ and c4 lines 1+). Examiner also notes that variable speed (as opposed to on/off feeding arrangements are well known).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have modified Kuhmonen to include the variable control, such that the speed is reduced without stopping, as taught by Girts and well known in the art, in order to maintain proper load and prevent overloading of the conveyor. Additionally examiner notes that the substitution of one facet of a control system (variable vs. on/off operation) for the common predictable result of controlling the rate and preventing overloading would be obvious to one of ordinary skill in the art.

-Re claim 2 determining the amount of material on the screen surface comprising measuring a variable of the movement of the screen surface or a variable of the drive

means of the screen surface causing the movement of the screen surface (c3 lines 57+).

-Re claim 3 determining the amount of material on the screen surface comprising measuring the load caused by the material on any of the processing units of the screening machine or on any machine following the screening machine and extending the process of the screening machine and being connected to the control system of the screening machine (c3 lines 57+).

-Re claim 4 measuring the load caused by the material on the screen comprising measuring a variable of the screen drive means causing the transport or processing of the material on the screen surface (c3 lines 57+).

-Re claim 5 the variable is a drive pressure, drive current or drive running speed (c3 lines 57+ ad c5 lines 54+).

-Re claim 6 the processing unit is any of the following: a discharge conveyor, a shredder, or a crusher (c3 lines 44+).

-Re claim 7 measuring the load comprises measuring any of the following variables: drive pressure of the discharge conveyor, shredder or crusher, drive current of the discharge conveyor, shredder or crusher, running speed of the discharge conveyor, shredder or crusher (c3 lines 57+). Examiner contends that the rotation of the drum causes the drum to act as a discharge conveyor in addition to a screen.

-Re claim 8 the machine following the screening machine and extending the process of the screening machine and being connected to the screening machine's control system is any of the following: - a second screening machine - a crushing machine - a conveying machine (26).

-Re claim 9 measuring the load on an engine caused by the material (c3 lines 57+)

-Re claim 11 presetting a maximum speed and a minimum speed for the feeding means. Examiner contends that the minimum speed is 0 when the feeder is stopped and the maximum speed is the operating speed of conveyor 18.

-Re claim 12 providing a predetermined maximum time ( $t_{max}$ ) for the measurement value ( $valm$ ) to be beyond the preset value; and lowering the speed of the feeding means below a preset speed value when the measurement value ( $valm$ ) has

been beyond the preset value for a period that exceeds the predetermined maximum time ( $t_{\max}$ ) (c3 lines 57+).

-Re claim 13 stopping the feeding means when the measurement value ( $val_m$ ) has been beyond the preset value for the period (c3 lines 57+).

-Re claim 14 a screening machine comprising at least one screen surface (20), feeding means (18) arranged to feed material to be screened towards the screen surface and onto the screen surface, the screen surface being capable of separating the material into a first fraction remaining on the screen surface and into a second fraction passed through the screen surface while the material is moving along the screen surface (c3 lines 25+), the screening machine further comprising a sensor (c3 lines 57+) arranged to measure a variable dependent on the amount of material on the screen surface; a controller (46) to which said sensor is connected through a data transmission line to receive a measurement value related to said variable from the sensor; an actuator operatively connected to the feeding means and arranged to change the feeding speed of the feeding means (c3 lines 57+). Relative to the controller see above regarding claim 1.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhmonen in view of Girts and further in view of US 4,665,772 to Greene. Kuhmonen

in view of Girts discloses all the limitations of claim except measuring the load by measuring the temperature of the hydraulic fluid of the hydraulic system. Greene discloses the use of hydraulic fluid temperature as a control input (c8 lines 40+) for facilitating shift performance and minimizing other adjustments (c8 lines 49+) and minimizing shift shock or jerk.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have modified Kuhmonen in view of Girts, to include the determination of load by measuring hydraulic fluid temperature, as taught by Greene, for the predictable result of improved performance and decreased wear.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Hageman whose telephone number is (571) 272-3027. The examiner can normally be reached on M-F 7:30-4:00.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick H. Mackey/  
Supervisory Patent Examiner, Art  
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MCH